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Implementation Of UI/UX Concepts And Techniques In Web Layout Design With Figma

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Abstract
The dynamic and rapidly evolving landscape of technology, particularly the internet, has witnessed the emergence of numerous websites, both formal and for entertainment (intertainment). This trend places a demand on web developers, specifically concerning interface design. They are required to continually innovate to provide users with a satisfying experience, characterized by intuitive design and accessibility across diverse user demographics. To achieve this objective, a profound understanding of user needs is imperative, enabling the optimization of existing features. Consequently, the application of UI/UX concepts and techniques becomes pivotal in crafting compelling and effective interfaces. This research aims to evaluate the implementation of UI/UX concepts and techniques in interface design, utilizing Figma as the primary tool, encompassing the stages of design conceptualization, wireframing, and prototyping. The experimental findings indicate that the integration of UI/UX principles results in interfaces that are more consistent, robust, and harmonious. Furthermore, enhancements are observed in aspects such as color harmony, font selection, and font size, aligning with the established design system.
Keywords: *UI/UX, Figma, Prototyping, Design System.*

Abstrak
Konteks teknologi yang terus berubah dan berkembang pesat, terutama di ranah internet dengan munculnya berbagai situs, baik yang bersifat formal maupun hiburan (intertainment), menimbulkan tuntutan bagi para pengembang web, khususnya dalam hal desain tampilan. Mereka harus terus berinovasi untuk memberikan pengalaman pengguna yang memuaskan, dengan desain yang intuitif dan mudah diakses oleh berbagai kalangan. Untuk mencapai hal ini, pemahaman mendalam tentang kebutuhan pengguna sangat penting, sehingga fitur-fitur yang ada dapat dioptimalkan. Oleh karena itu, penerapan konsep dan teknik UI/UX menjadi krusial dalam merancang antarmuka yang menarik dan efektif. Penelitian ini bertujuan untuk menguji konsep dan teknik UI/UX dalam desain antarmuka menggunakan perangkat Figma sebagai alat utama, mulai dari tahap perancangan, wireframing, hingga proses prototyping. Hasil uji coba menunjukkan bahwa dengan menerapkan konsep dan teknik UI/UX, desain antarmuka menjadi lebih konsisten, solid, dan harmonis. Selain itu, terdapat peningkatan dalam aspek-aspek seperti keselarasan warna, jenis huruf, dan ukuran huruf, yang sesuai dengan sistem desain yang telah ditetapkan.
Keywords: UI/UX, Figma, Purwarupa, Sistem Desain.

INTRODUCTION

It has been more than 2 (two) decades that technology trends have developed very rapidly, especially the internet with various sites or better known as websites that are available as promotional media, communications and information centers, which has encouraged a web designer to create a website interface design. which makes the user feel comfortable and provide convenience when using it. The modern interface design paradigm does not only prioritize the appearance of the User Interface (UI) which is more inclined to layout design, but the level of comfort, satisfaction and enjoyment and experience of the user is an important point in designing a modern website interface or better known as the User Experience (UX) [1].

The development of the digital world, internet and mobile has brought big changes, everything runs faster and more efficiently, because existing information can be transferred in a short time, can be accessed anywhere (mobile) more personal and segmented. This requires that an application designer not only focus on the technology, functionality and aesthetics of the application interface design, but rather on understanding and the process of how a design becomes integrated in its daily use [2]. In previous research, a web layout design is required to be adaptable or have responsive features so that the layout design can follow the screen size based on the device In the development of application layout designs in the current era, it is highly recommended that an interface design

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implement the User Interface (UI) and User Experience (UX) methods into its design. User Interface (UI) focuses more on layout, color play, typography, hierarchy, components and features contained in the application, while User Experience (UX) is more on user experience, whether the application created is easy to use or difficult for the user [3] Study how users interact, perform wireframe and prototyping techniques and methods.

The intent and purpose of implementing UI/UX concepts and techniques into the application interface design (layout) design, aims to create alignment of system requirements with business flows so as to produce an attractive user interface and user experience display, with the end result of the interface design being easy to understand in use. The user experience is determined by how easy and difficult it is for the user to interact with the interface elements, features and components that the UI designer has created.

In this study, to implement UI/UX concepts and methods into interface designs, software such as Figma will be used as the main tool for making initial designs in the form of sketches or wireframes, also known as low-fidelity to the prototyping or high-fidelity stage. The other supporting tools will be used by the Chrome and Mozilla Firefox engines to render pages, test and simulate prototypes that have been made.

The expected results of the web design interface design or application that is made can meet the needs of the user (user). The application is easy to use, the placement of objects is aligned, the harmonization of colors affects the emotions of the user, the ease of accessing the application, the design of the application provides value for stakeholders or sponsors such as increasing user satisfaction, so that it will increase or advance company profits.

MATERIALS AND METHODS

The research methodology was carried out in several stages, including:

1. Literature study

   In this early stage, a study was carried out on several articles and books related to the design of interface designs that implement UI/UX concepts and methods. This section is also carried out to find the focus of the problem and the formulation of solutions that will be offered in research.
2. Analysis of problems and formulation of hypotheses

   After obtaining literature material, at this stage an analysis is carried out to formulate a solution that will be offered.
3. Solution design

   At this stage, it will begin with designing a design that will be used as a solution to the problems raised.
4. Implementation of solutions and trials

   The implementation of the solution from the design that has been done will be tested by implementing it in prototype form before converting from the design form into program code.
5. Drawing conclusions

   The test results are then analyzed to obtain several conclusions that can be drawn from the research.

A. Tools and Materials

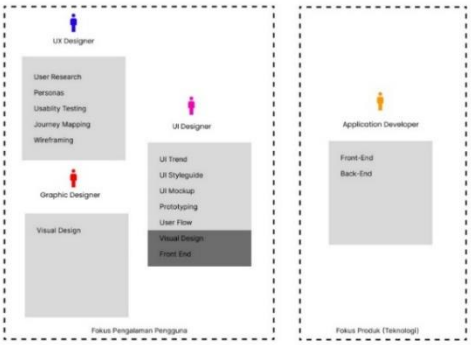
As supporting materials (tools) in designing this interface design, it is divided into two parts, namely software and hardware.

Table 1. Software and Hardware Specifications

No	Tools	Description
1	Software a. Figma b. Chrome, Firefox	The main tools for designing and designing interfaces, as well as conducting prototype testing and simulation
2	Hardware a. 1 Unit PC/Laptop b. Mouse, monitor and keyboard *(peripheral)*	Standard PC specifications minimum: 4GB RAM, 128GB SSD

Source: Miftah Table [4]

B. User Experience (UX) and User Interface (UI)



Source: Miftah Figure [4]

Figure 1. UI/UX and App Developer Division of Work Area

1. User Experience (UX)

   Perception or behavior of a person and his response from the use of a product or software

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[5]. Something related to touch, an experience that can be felt by the user when using or operating the program [6]. User experience is largely determined by how an interface design is designed by a UI designer, is it easy to use or difficult to use or even takes time to understand the features in the application or product design. User experience is the main factor that influences the success or failure of an application to continue or not [7].

2. User Interface (UI)

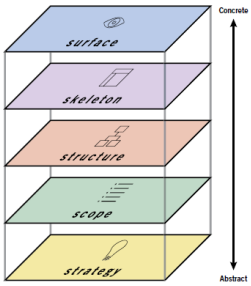
Knowledge of the graphical layout of a web or application [8]. The scope of the UI starts from buttons, images, text, and all items that will be interacted with by the user, by way of touch or pressing action. Layouts, transitions, animations and micro interactions. Everything related to the visual elements of how web pages will be displayed all fall into the realm of the UI. In this case the task of a UI Designer is related to elements such as determining and selecting the right color, typeface or typography, hierarchy between elements, button shapes, and icons. A UI designer must be able to make users feel comfortable, and the longer the user uses the application, the more successful the application can be at this stage, which will later bring benefits to the sponsor or stakeholder of a company.

The division of labor area can be seen in Figure 1, where you can see the scope of the work area of a UX Designer includes user research, personas, usability testing, journey mapping, wireframing and UI Designer stages including ui trend, ui style guide, ui mockup, prototyping, user flow , a little touch with the front-end and visual design. Graphic Designers focus on visual design and Application Developers focus on front end and back end coding areas. UI/UX focuses more on user experience (human focus) while Application Developers focus more on their products (technology focus).

C. UX/UI Design Elements

1. UX Design Elements

In order to understand the UX concept, you can review the model created by Jesse James Garrett, in his book The Elements of User Experience: User-Centered Design for the Web. The model has 5 (five) processes: 1) Strategy area 2) Scope area 3) Structure area 4) Frame area and 5) Surface area (Garrett, n.d.). The most fundamental thing about this model starts from the field of strategy (strategy) where this area focuses more on user needs. Limitations of the scope from the user experience point of view in terms of the functionality of the interface design to be made, product descriptions, payment methods and so on. For the information structure so that the design runs as expected, the structure sector will accommodate, starting from how customers get information easily without being faced with obstacles or difficulties when using the product. The next stage is the layout design which is still in the form of a draft or low fidelity and has not yet reached the visualization stage, this is included in the field of the framework (skeleton). The surface stage will focus more on the final appearance, starting from composition and color balance, transitions, hierarchies between elements and so on.



Source: Miftah Figure [4]

Figure 2. Jesse James Garret User Experience Model

2. UX Design Process

There are several techniques or methods in the application development process. These methods include: 1) User Centered Design (UCD). 2) Design Thinking 3) Design Sprint 4) Lean UX. The UCD method is an interface design method which in the design process involves user needs [9]. The UCD technique is carried out in linear stages different from the Design Thinking method, which can be carried out non-sequentially, but in outline the stages are as follows: empathize, define, idiate, prototype and test [10]. Design Sprint Method A series of activities to describe a product, starting from adding or updating features and Lean UX is a method that involves Design Thinking and Agile methods so that this method greatly saves time for developing an application [11]. In principle, a UX design process can be done flexibly or flexibly, process design only makes it easier to find solutions, process design does not have to be done in every situation/condition.

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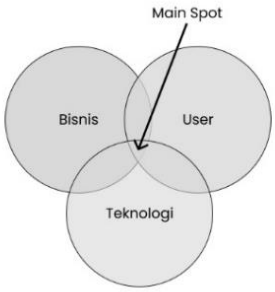
In the development of a product there are generally 3 main role factors that will be involved, namely the existence of a business, technology and users. Development is carried out in a balanced way, then an insight will be found. These findings must be processed by a Product Manager or Product Owner.

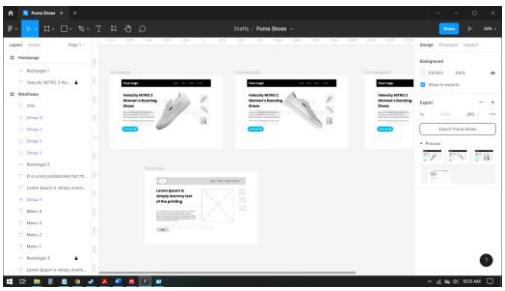


Source: Miftah Figure [4]
Figure 3. Main Role of Product Development

Can the product be developed from a technological point of view so that it will generate profit, apart from being seen from the user side.

3. User Flow

It is a diagram of flow steps or stages that must be completed by the user to complete an activity (task) [12]. User flow is generally formed according to the business flow of a company or the habits of its users. By converting user behavior or habits into digital form in the form of flows or diagrams, which are obtained from the results of competitor analysis or direct interviews. This stage is used to determine a suitable design for interface design before entering the wireframe design and prototyping stages. Another alternative to using the user flow method is to use task analysis to find out user habits that are quite complex and changeable so that later the analysis can be carried out in more depth.



Source: Miftah Figure [4]
Figure 4. Figma *Dashboard*

4. Wireframe

A layout design design in the form of Low-fidelity (Lo-Fi) which can assist designers in presenting interface information, providing an outline of the interface structure and speeding up the design process [12].

Generally, it has design characteristics that are still in the nature of concepts or rough sketches, fast processing time, colors used are black and white, only use one or two types of fonts. This technique can be made with a digital model using the help of software or manually using Crazy 8's sketch model.

5. UI Design & Design System

A design in it must contain several elements, to create a form, combine and arrange it in order to obtain an attractive, satisfying form that creates a beautiful visual experience and aesthetic value [8]. Some of these design elements include: 1) Points 2) Lines 3) Fields 4) Space 5) Size 6) Color 7) Texture and 8) Letters/ Typography.

Design System is a component that can be reused for the purposes of product design and development, both in terms of design and programming code. Components created in an interface design must be consistent, between one component and another and can be reused for future product development [13].

6. Prototyping

Prototyping early stage design, which represents the results, the form of a product in a paper sketch or in digital form in the form of a wireframe [11]. There are two types of prototyping, Low Fidelity (Lo-Fi) and High Fidelity (Hi-Fi). Lo-Fi design plans are still in the form of drafts, sketches, blueprints. Hi-Fi design templates that showcase, represent the end result of a product, and the design is clickable like a finished product.

7. Figma

Figma is a software design tool that is generally used for designing, wireframing, prototyping, interface design of a website display and mobile application [8]. Runs on several Windows and MacOS operating systems. Generally, the use of this application is widely used by someone who works in the field of application design and the like, such as UI / UX Designers, Web Designers. This application is similar to Adobe XD, but Figma has other advantages including, 1) Web Based

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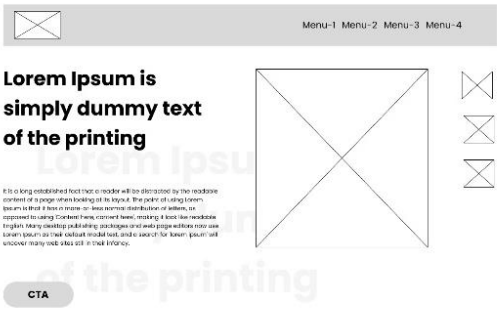
(Cloud) 2) Collaboration. With these two features, this application is the choice of UI/IUX Designers. The workmanship will be faster and more efficient, because the work process can be carried out directly at the same time, even though it is in a different place.



Source: Miftah Figure [4]
Figure 5. *Wireframe Landing Page Design*

RESULTS AND DISCUSSION

In this section, the results of the implementation and testing of the prototype design model are described.

1. Model Implementation

The implementation of the UI/UX concept into an interface design will focus on the User Interface (UI) design on a web page in the form of a landing page so that the level of complexity and complexity as well as design features and components can be reduced. The idea or concept that will be used in designing the display is simple and minimalist or known as "Clean and Minimalist Design" so that users immediately focus on the functionality side without being distracted by unnecessary design features or knick-knacks, this refers to the user experience side User Experience (UX).

Having a simple flow, users are presented with a large main image display (hero image) in the form of a slide, as well as several indicators for navigating between pages. The design of placing the image of the product or object is made more prominent, combined with the arrangement and typeface that seems firm but not rigid. The hierarchy between button elements and typeface (typography) is made as harmonious as possible, coupled with a harmonious and consistent color composition in accordance with system design rules or principles.

After getting an idea or concept that will be used in interface design, the next stage is sketching which can be done manually storyboarding, index cards or digitally with the wireframing technique Figure 5. The results of the wireframing are still at the Low-Fidelity (Lo-Fi) level before entering the stage prototyping.

Source: Miftah Figure [4]
Figure 6. *UI Styling Page #2*

Before entering the UI Styling stage, first enter the Design System where everything related to elements, starting from features, buttons, color composition, font size and type, hierarchies between elements, rules will be made so that there is compatibility between elements and aims to be in the design development stage. future applications, design is always consistent. The font used is Poppins, sizes 12, 22, 44, 58 and 98 pixels. The hierarchy between elements uses padding and margin spacing in multiples of 2 (two), then for the colors here use black and white as the main (primary) colors and gray as the second (secondary) colors. Determining the design system in the Figma application can use the component figma feature, in which feature, a designer can create components that can be used repeatedly with the same shape and design, this reduces the creation of repetitive components that are repetitive in nature.

The conversion from the wireframe stage to the UI display is the next stage, which has previously gone through the system design stage. In the UI Styling stage, a design or mockup is obtained from a Low-Fidelity design which will be converted to a High Fidelity form where the design will be close to the final form.

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Source: Miftah Figure [4]
Figure 7. *UI Styling Page #1*

The rules in designing must still be followed in accordance with the design system that has been made before. The landing page design modeled here consists of 3 (three) pages that are useful for application prototyping when moving between pages.

In figure 7 the UI design shown is on the 2nd (two) page, and the last page is on the 3rd (three) page.

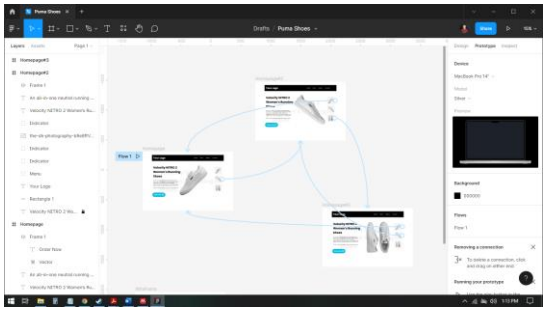
2. Testing

At this testing stage it was carried out using the Figma application tool using the Figma Prototype feature. After determining the interface design concept, observations from the perspective of user experience, Wireframing, System Design and UI Styling will proceed to the Prototyping stage.

The Landing Page prototype is made using the features that Figma has provided, so that a designer can directly simulate it like a product that has been released or is final, so that the product that has passed the test is expected to be able to fulfill the user's wishes. The prototype can be seen at the following link: https://bit.ly/jurnal_uix_miftah

CONCLUSION

The test results from designing the interface design concept results in a more consistent and unified (solid) design, starting from the layout between elements, color harmonization, hierarchy between elements, this is because it is influenced by system design rules that have been made.



Source: Miftah Figure [4]
Figure 8. *Prototype Landing Page*

Not only does it prioritize UI design that is purely aesthetic, but here you can see a design that is so minimal that in terms of functionality, usability and convenience it makes users more comfortable because it focuses more on simple, minimal and not complex features.

REFERENCE

[1] S. Mutiasanti, M. Tri Ananta, and H. Muslimah Az-Zahra, "Evaluasi Pengalaman Pengguna Pada Aplikasi Mobile E-Commerce Di Indonesia Dengan Menggunakan UX Honeycomb," 2018. [Online]. Available: http://j-ptiik.ub.ac.id

[2] M. B. Wiryawan, "USER EXPERIENCE (UX) SEBAGAI BAGIAN DARI PEMIKIRAN DESAIN DALAM PENDIDIKAN TINGGI DESAIN KOMUNIKASI VISUAL," 2011.

[3] V. Frendiana and D. Widhiantoro, "Desain UI dan UX pada Aplikasi Android Coronavirus Disease 2019 (COVID-19)," *Jurnal Ilmu Komputer dan Desain Komunikasi Visual*, vol. 5, no. 2, 2020.

[4] M. Santoso, "Implementation Of UIUX Concepts And Techniques In Web Layout Design With Figma".

[5] J. J. Garrett, *The elements of user experience : user-centered design for the Web and beyond*.

[6] G. Nabila and S. Wahyuni, *MDP STUDENT CONFERENCE (MSC) 2022 Penerapan UI/UX Dengan Metode Design Thinking Pada Aplikasi Jaya Indah Perkas*.

[7] D. N. Yastin, H. B. Suseno, and V. Arifin, "EVALUASI DAN PERBAIKAN DESAIN USER INTERFACE UNTUK MENINGKATKAN USER EXPERIENCE PADA APLIKASI MOBILE SIARAN TANGSEL MENGGUNAKAN METODE GOAL DIRECT DESIGN (GDD)".

[8] M. Agus Muhyidin, M. A. Sulhan, and A. Sevtiana, "PERANCANGAN UI/UX APLIKASI MY CIC LAYANAN INFORMASI AKADEMIK MAHASISWA MENGGUNAKAN APLIKASI FIGMA," 2020. [Online]. Available: https://my.cic.ac.id/.

[9] "ISO 9241-210:2019," 2010.

[10] W. S. L. Nasution and P. Nusa, "UI/UX Design Web-Based Learning Application Using Design Thinking Method," *ARRUS Journal of Engineering and Technology*, vol. 1, no. 1, pp. 18–27, Aug. 2021, doi: 10.35877/jetech532.

[11] R. Mayasari, A. Susilo Yuda Irawan, and U. Singaperbangsa Karawang, "PENERAPAN METODE LEAN UX PADA PERANCANGAN UI/UX APLIKASI DIGILIB UNSIKA VERSI WINDOWS IMPLEMENTATION OF LEAN UX METHOD ON UI/UX DESIGN OF DIGILIB UNSIKA APPLICATION IN WINDOWS VERSION," *Journal*

E-ISSN : **2655-8238**
P-ISSN : **2964-2132**

of Information Technology and Computer Science (INTECOMS), vol. 4, no. 2, p. 2021.

[12] D. Tri Widiatmoko, B. Setya Utami, P. Studi Desain Komunikasi Visual, and F. Teknologi Informasi, "Perancangan UI/UX Purwarupa Aplikasi Penentu Kualitas Benih Bunga Berbasis Mobile Menggunakan Metode Design Thinking (Studi Kasus PT Selektani)," *AITI: Jurnal Teknologi Informasi*, vol. 19, no. Februari, pp. 120–136, 2022.

[13] S. Wahyu, dan Jefry Sunupurwa Asri, and E. Correspondent Author, "Konferensi Nasional Ilmu Komputer (KONIK) 2021 Perancangan Konsep Dan Evaluasi Desain User Experience Pada Aplikasi Mobile Penyedia Tempat Layanan Fitness Dengan Pendekatan User-Centered Design".